

APPENDIX B

PLANT DATASHEETS AND ILLUSTRATIONS

(Bentrup and Hoag, 1998)



*Glyceria striata*

# Sloughgrass - *Beckmannia syzigachne*

## Characteristics

### Habit:

A short to medium-sized perennial, 10 to 40 inches in height. Rhizomatous, usually occurring in large stands or turf.

### Stems:

Slender and triangular.

### Leaves:

Alternate, nearly flat and green.

### Spikes:

Borne on spikes, usually 1 male spike above the 2 or 3 female spikes, all sessile.

Flowering period: June to August.

## Habitat

### Distribution:

A fairly common species that can be found at elevations from 5,000 to 10,000 feet. Normally occurs at higher elevations than Nebraska sedge. Often occurs with blue-joint reedgrass and beaked sedge.

### Community:

Pond and stream edges, marshes, and wet meadows. Grows on a range of moist soils from loams to silt. Will grow on gravel/sand soils at low elevations.

### Hydrology:

Usually found in areas with water depths of 1 to 3 inches season-long. Will decline in water that is 25 in deep. Needs moisture within 8 in of the soil surface.

## Wildlife Benefits

### Food (seeds, rhizomes):

Waterfowl, upland game birds, and songbirds.

### Food (plants):

Livestock and other grazers. Fair to good palatability and high production.

### Cover:

Nesting waterfowl and small mammal cover.

## Comments

Moderate to good tolerance for acidic, saline, and alkaline soils. Biomass below ground is 4x the above ground growth. Can withstand fire without much damage because of the high watertable.



# Sloughgrass - *Bechmannia syzigachne*

## Propagation and Planting

### Fruits:

Achenes are oval, tan to brown and approximately 1/16 inch long. Collect by cutting the seedheads with a clipper. A 1/2 to 3/4 grocery bag of bulk material will yield about 1 to 2 cups of seed.

### Propagation:

Remove perigynia with sandpaper box. Wet prechill seed for 30 days in a mixture of distilled water and sphagnum moss in a cooler (34 to 38° F). Sprinkle seed on top of soil and press in to ensure seed to soil contact. Keep moist during germination. Plants should be ready for outplanting in 2 to 3 months.

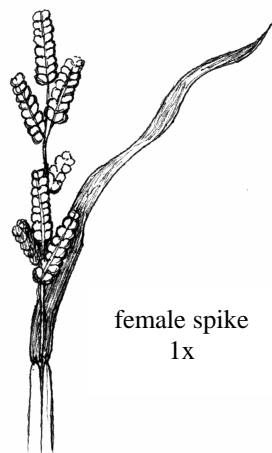
### Transplanting:

This species has a slow rate of spread.

### Suggested spacing:

For uniform ground cover

	<u>Plant at:</u>
in 1 yr.	0.5 ft. o.c.
in 2 yrs.	1 ft. o.c.
in 3 yrs.	2 ft. o.c.



# Water Sedge - *Carex aquatilis*

## Characteristics

### Habit:

A short to medium-sized perennial, 10 to 40 inches in height. Rhizomatous, usually occurring in large stands or turf.

### Stems:

Slender and triangular.

### Leaves:

Alternate, nearly flat and green.

### Spikes:

Borne on spikes, usually 1 male spike above the 2 or 3 female spikes, all sessile.

Flowering period: June to August.

## Habitat

### Distribution:

A fairly common species that can be found at elevations from 5,000 to 10,000 feet. Normally occurs at higher elevations than Nebraska sedge. Often occurs with blue-joint reedgrass and beaked sedge.

### Community:

Pond and stream edges, marshes, and wet meadows. Grows on a range of moist soils from loams to silt. Will grow on gravel/sand soils at low elevations.

### Hydrology:

Usually found in areas with water depths of 1 to 3 inches season-long. Will decline in water that is 25 in deep. Needs moisture within 8 in of the soil surface.

## Wildlife Benefits

### Food (seeds, rhizomes):

Waterfowl, upland game birds, and songbirds.

### Food (plants):

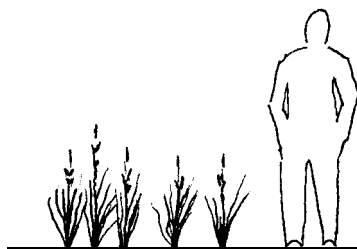
Livestock and other grazers. Fair to good palatability and high production.

### Cover:

Nesting waterfowl and small mammal cover.

## Comments

Moderate to good tolerance for acidic, saline, and alkaline soils. Biomass below ground is 4x the above ground growth. Can withstand fire without much damage because of the high watertable.



## Water Sedge - *Carex aquatilis*

### Propagation and Planting

#### Fruits:

Achenes are oval, tan to brown and approximately 1/16 inch long. Collect by cutting the seedheads with a clipper. A 1/2 to 3/4 grocery bag of bulk material will yield about 1 to 2 cups of seed.

#### Propagation:

Remove perigynia with sandpaper box. Wet prechill seed for 30 days in a mixture of distilled water and sphagnum moss in a cooler (34 to 38° F). Sprinkle seed on top of soil and press in to ensure seed to soil contact. Keep moist during germination. Plants should be ready for outplanting in 2 to 3 months.

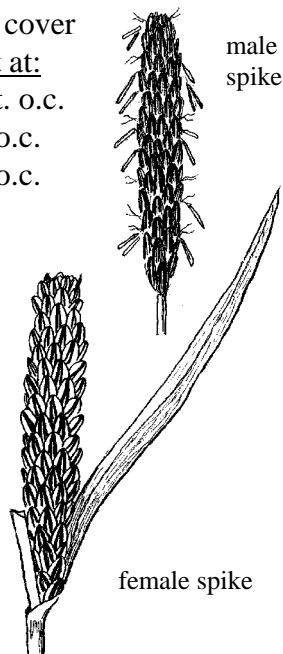
#### Transplanting:

This species has a slow rate of spread.

#### Suggested spacing:

For uniform ground cover

	<u>Plant at:</u>
in 1 yr.	0.5 ft. o.c.
in 2 yrs.	1 ft. o.c.
in 3 yrs.	2 ft. o.c.



# Nebraska Sedge - *Carex nebrascensis*

## Characteristics

### Habit:

A short to medium-sized robust perennial, 8 to 40 inches in height. Rhizomatous, usually occurring in dense, multispecies stands.

### Stems:

Stout and triangular.

### Leaves:

Flat, alternate, triangular, and ranging in color from green to blue.

### Spikes:

Borne on spikes, sessile, usually with 1-2 male spikes above the 2-5 female spikes.

Flowering period: May to August.

## Habitat

### Distribution:

A common species that can be found at elevations from 3,500 to 10,000 feet.

### Community:

Pond and stream edges, marshes, wet meadows, seeps, and ditches. Grows on a range of moist, fresh, fine textured soils. Generally does not establish well on gravel or clay soils.

### Hydrology:

Usually found in areas with season-long saturated soils, although tolerant of a range of hydrologic regimes. It can tolerate total inundation for up to 3 months.

## Wildlife Benefits

### Food (seeds, rhizomes):

Waterfowl, upland game birds, small mammals and songbirds.

### Food (plants):

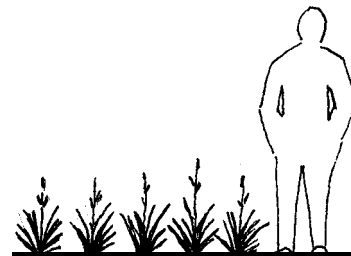
Muskrats, geese, livestock and other grazers. Palitability and production are high.

### Cover:

Nesting waterfowl and small mammal cover.

## Comments

Tolerates alkaline soils. Excellent soil stabilizer. Forms dense deep root system with root biomasses up to 3000 g/m<sup>2</sup> in top 20 cm of soil. Used by native americans for mats, bedding, and food.



# Nebraska Sedge - *Carex nebrascensis*

## Propagation and Planting

### Fruits:

Achenes are lenticular, tan to brown and approximately 1/16 of an inch long. Collect by cutting the seedheads with a clipper. A 1/2 to 3/4 grocery bag of bulk material will yield about 1 to 2 cups of seed.

### Propagation:

Remove periygnia with sandpaper box. Wet prechill seeds for 30 days in a mixture of distilled water and sphagnum moss in a cooler (34 to 38<sup>o</sup> F). Sprinkle seeds on top of soils and press in to ensure seed to soil contact. Keep moist during germination. Plants should be ready for outplanting in 2 to 3 months.

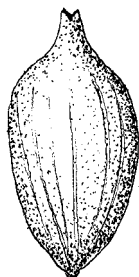
### Transplanting:

This species has a rapid rate of spread.

Suggested spacing:

For uniform ground cover

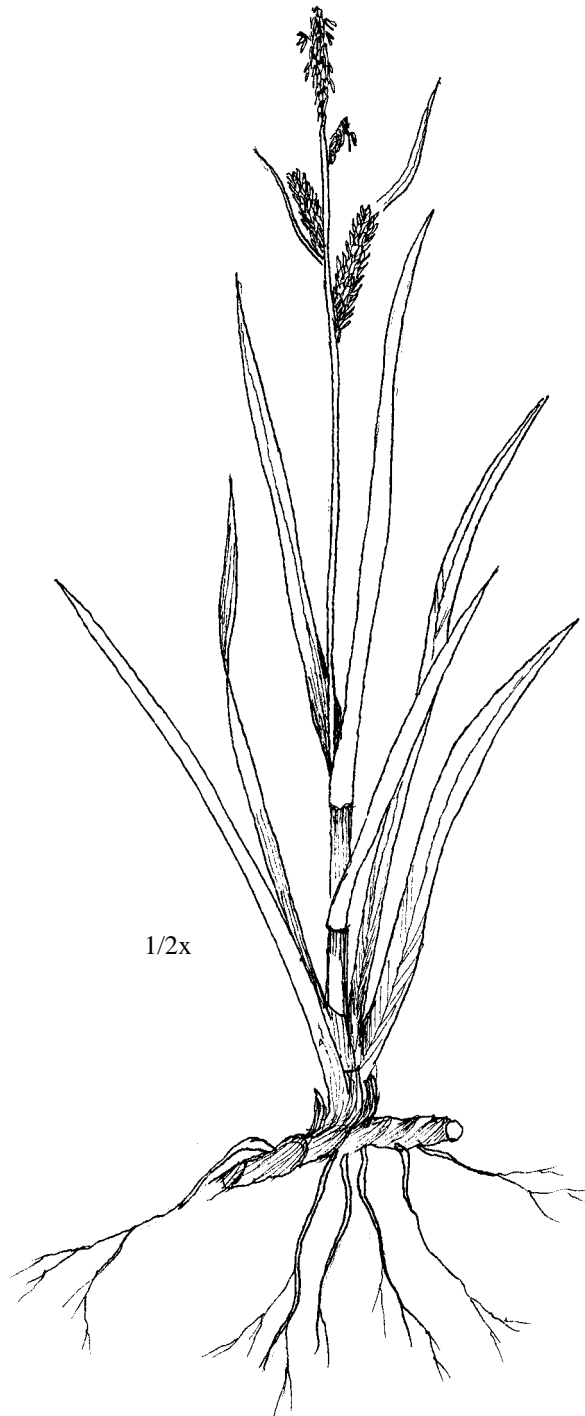
	<u>Plant at:</u>
in 1 yr.	0.5 ft. o.c.
in 2 yrs.	1 ft. o.c.
in 3 yrs.	2 ft. o.c.



Seed  
10x



1x



1/2x



# Beaked Sedge - *Carex utriculata*

**Synonym:** *Carex rostrata*

## Characteristics

### Habit:

A medium-sized perennial, 10 to 50 inches in height. Rhizomatous, usually occurring in large, dense monotypic stands.

### Stems:

Slender to stout and triangular.

### Leaves:

Alternate, long, nearly flat, and yellowish green in color.

### Spikes:

Borne on spikes, usually 2 or 3 male spikes above the 2 or 3 female spikes. Flowering period: June to August.

## Habitat

### Distribution:

A fairly common species that can be found at elevations from 5,000 to 10,000 feet. Normally occurs at higher elevations than Nebraska sedge.

### Community:

Pond and stream edges, marshes, wet meadows, and springs. Grows on a range of moist soils from loams to silt. Does not occur on gravel/sand or clay soils.

### Hydrology:

Generally found in areas with season-long saturated soils, tolerates a range of hydrologic regimes. Can grow in water that is 15-30 in. deep.

## Wildlife Benefits

### Food (seeds, rhizomes):

Waterfowl, upland game birds, small mammals, and songbirds.

### Food (plants):

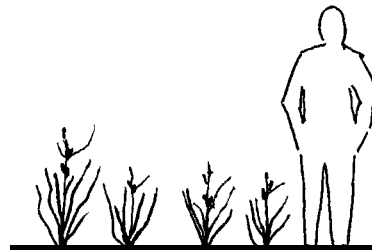
Big game and other grazers early in the season. Protein levels are low to moderate.

### Cover:

Nesting waterfowl and small mammal cover.

## Comments

Moderate tolerance for acidic and alkaline soils. Can spread by fragmentation. Rhizomes and roots are 2-5x the biomass of the above ground growth. Excellent plant for creating overhanging banks on streams. Difficult to burn.





## Beaked Sedge - *Carex utriculata*

### Propagation and Planting

#### Fruits:

Achenes are triangular, tan to brown and approximately 1/8 inch long. Collect by cutting the seedheads with a clipper. A 1/2 to 3/4 grocery bag of bulk material will yield about 1 to 2 cups of seed.

#### Propagation:

Remove perigynia with sandpaper box. Wet prechill seed for 30 days in a mixture of distilled water and sphagnum moss in a cooler (34 to 38<sup>o</sup> F). Sprinkle seeds on top of soil and press in to ensure seed to soil contact. Keep moist during germination. Plants should be ready for outplanting in 2 to 3 months.

#### Transplanting:

This species has a medium rate of spread.

Suggested spacing:

For uniform ground cover

Plant at:

in 1 yr.

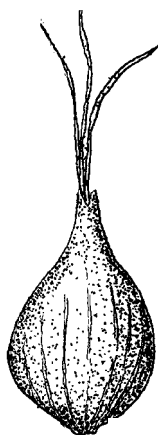
0.5 ft. o.c.

in 2 yrs.

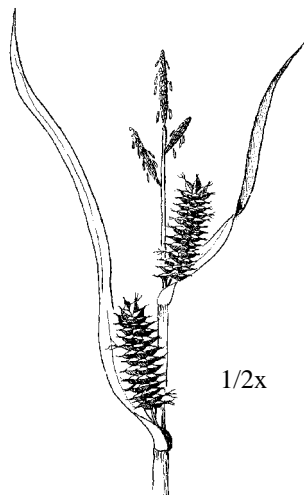
1 ft. o.c.

in 3 yrs.

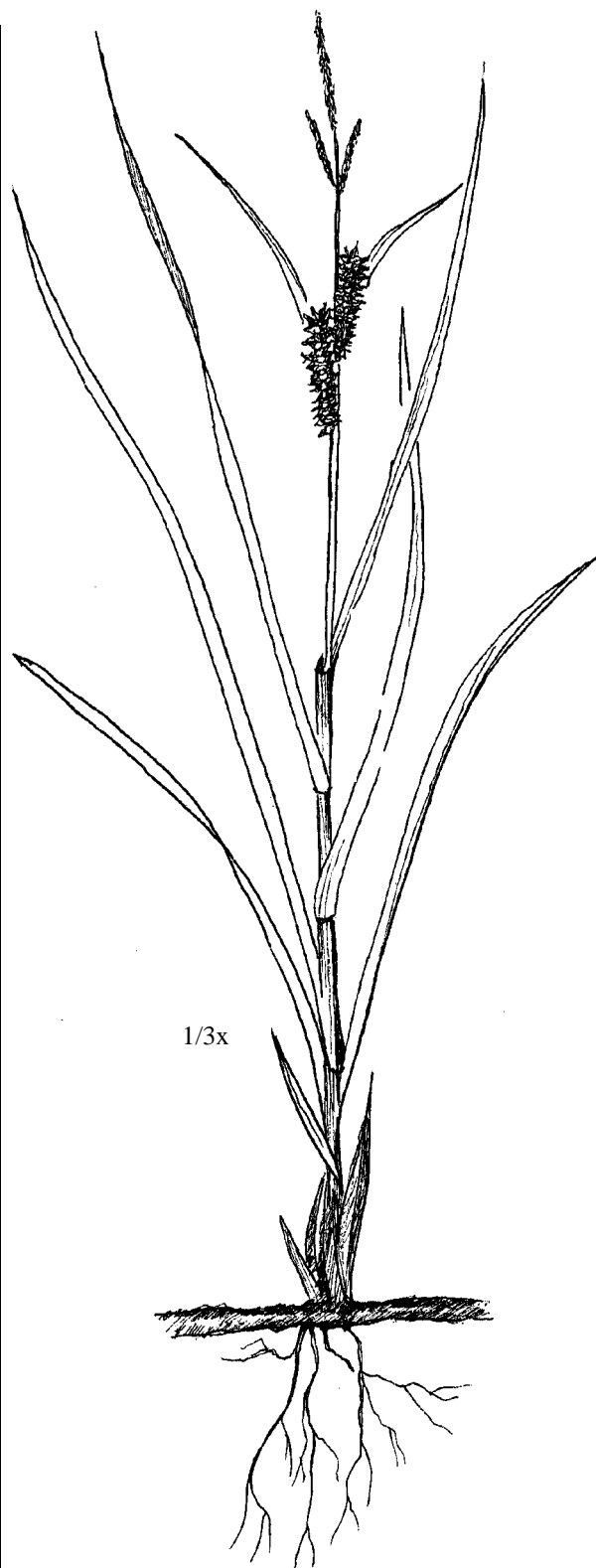
2 ft. o.c.



seed  
10x



1/2x



1/3x



# Tuffed Hairgrass - *Deschampsia caespitosa*

## Characteristics

### Habit:

A short to medium-sized robust perennial, 8 to 40 inches in height. Rhizomatous, usually occurring in dense, multispecies stands.

### Stems:

Stout and triangular.

### Leaves:

Flat, alternate, triangular, and ranging in color from green to blue.

### Spikes:

Borne on spikes, sessile, usually with 1-2 male spikes above the 2-5 female spikes. Flowering period: May to August.

## Habitat

### Distribution:

A common species that can be found at elevations from 3,500 to 10,000 feet.

### Community:

Pond and stream edges, marshes, wet meadows, seeps, and ditches. Grows on a range of moist, fresh, fine textured soils. Generally does not establish well on gravel or clay soils.

### Hydrology:

Usually found in areas with season-long saturated soils, although tolerant of a range of hydrologic regimes. It can tolerate total inundation for up to 3 months.

## Wildlife Benefits

### Food (seeds, rhizomes):

Waterfowl, upland game birds, small mammals and songbirds.

### Food (plants):

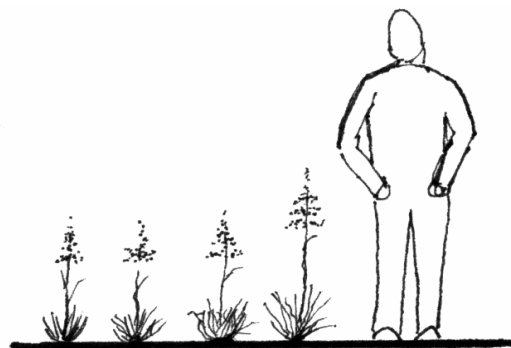
Muskrats, geese, livestock and other grazers. Palitability and production are high.

### Cover:

Nesting waterfowl and small mammal cover.

## Comments

Tolerates alkaline soils. Excellent soil stabilizer. Forms dense deep root system with root biomasses up to 3000 g/m<sup>2</sup> in top 20 cm of soil. Used by native americans for mats, bedding, and food.



## Tufted Hairgrass - *Deschampsia caespitosa*

### Propagation and Planting

#### Fruits:

Achenes are lenticular, tan to brown and approximately 1/16 of an inch long. Collect by cutting the seedheads with a clipper. A 1/2 to 3/4 grocery bag of bulk material will yield about 1 to 2 cups of seed.

#### Propagation:

Remove perigynia with sandpaper box. Wet prechill seeds for 30 days in a mixture of distilled water and sphagnum moss in a cooler (34 to 38° F). Sprinkle seeds on top of soils and press in to ensure seed to soil contact. Keep moist during germination. Plants should be ready for outplanting in 2 to 3 months.

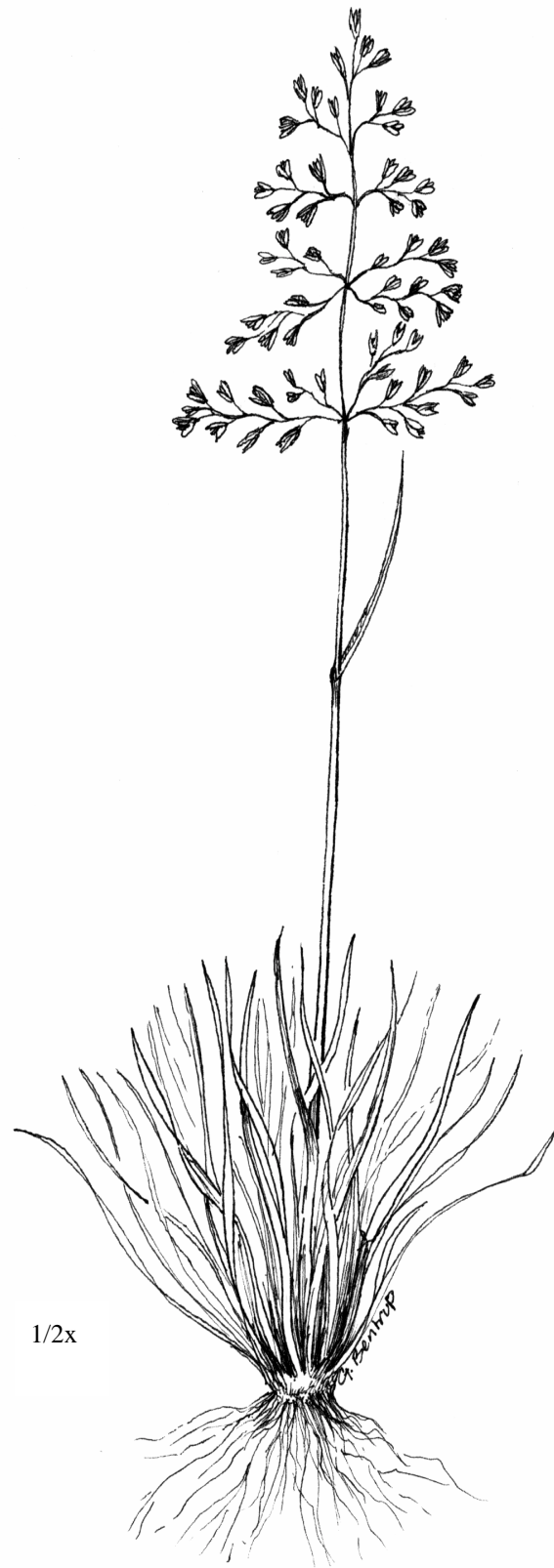
#### Transplanting:

This species has a rapid rate of spread.

Suggested spacing:

For uniform ground cover

	<u>Plant at:</u>
in 1 yr.	0.5 ft. o.c.
in 2 yrs.	1 ft. o.c.
in 3 yrs.	2 ft. o.c.



# Creeping Spikerush - *Eleocharis palustris*

## Characteristics

### Habit:

An erect perennial, 4 to 40 inches in height. Rhizomatous, usually occurring in monotypic stands.

### Stems:

Dark green, oval.

### Leaves:

Small, with reddish basal sheath.

### Spikes:

Solitary terminal spikelets, 0.25 to 0.75 inches long. Perfect flowers (contain both female and male parts).

Flowering period: June to August.

## Habitat

### Distribution:

Very common species that can be found at elevations from 3,000 to 10,000 feet.

Widespread over central and northern US.

### Community:

Wet meadows, pond, and stream edges, lake basins, and stream margins. Grows on a range of moist, fine textured soils.

Uncommon on gravel or clay soils.

### Hydrology:

Generally found in areas with season-long saturated soils or standing water up to 6 inches deep, although it will tolerate long periods of flooding.

## Wildlife Benefits

### Food (seeds, rhizomes):

Ducks and geese.

### Food (plants):

Rabbits, muskrats, big game, and other grazers. High spring protein content.

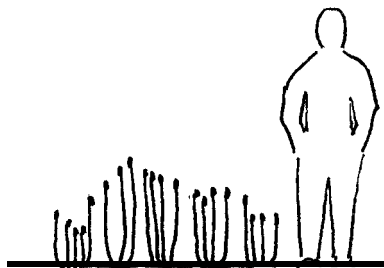
### Cover:

Small mammal, nesting waterfowl, and songbird cover.

## Comments

Excellent tolerance for alkaline and saline soils. Can fix atmospheric nitrogen.

Good around troughs and ponds because it resists trampling.



## Creeping Spikerush - *Eleocharis palustris*

### Propagation and Planting

#### Fruits:

Achenes are flattened and approximately 1/16 inch long including the tubercle. Collect by cutting the tops with a grass clipper. A grocery bag of spikes will produce about 2/3 to 1 cup of seed.

#### Propagation:

Wet prechill seeds for 30 days in a mixture of distilled water and sphagnum moss in a cooler (34 to 38° F). Sprinkle seed on top of soil and press in to ensure seed to soil contact. Keep moist during germination. Plants should be ready for outplanting in 2 to 3 months.

#### Transplanting:

This is an excellent species for transplanting because of its dense rhizomes and high growth rate.

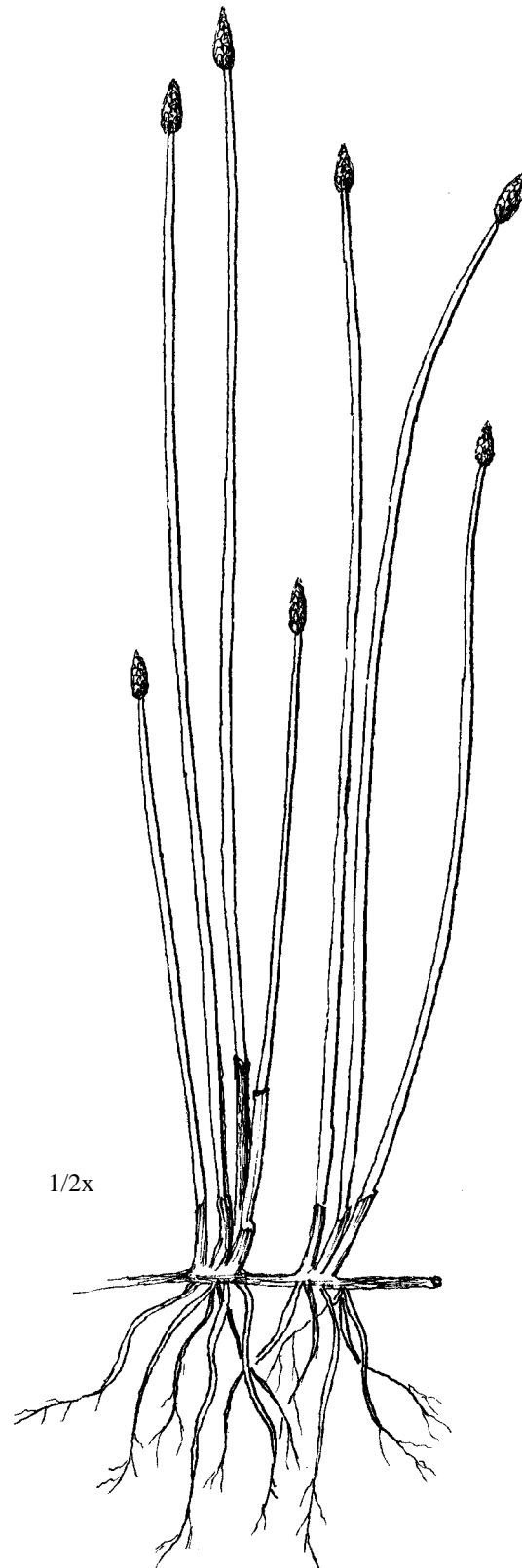
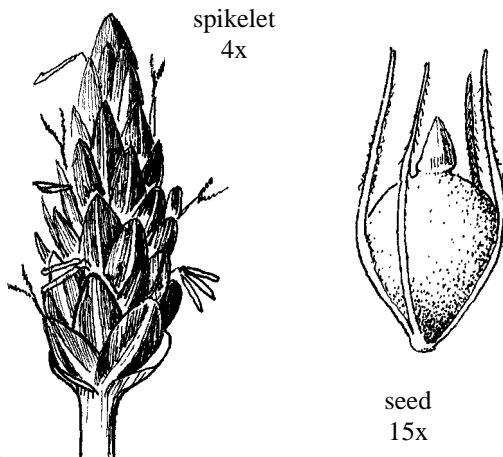
Suggested spacing:

#### For uniform ground cover

in 1 yr.  
in 2 yrs.  
in 3 yrs.

#### Plant at:

1 ft. o.c.  
2 ft. o.c.  
3 ft. o.c.



# Mannagrass - *Glyceria striata*

## Characteristics

### Habit:

Rhizomatous but forming large clumps, 4 feet in height.

### Stems:

Erect, smooth, up to 4 feet tall.

### Leaves:

Flat or sometimes folded lengthwise, somewhat rough to the touch, up to 1/3 inch wide.

### Spikes:

Borne on spikes, usually 1 male spike above the 2 or 3 female spikes, all sessile.

Flowering period: June to August.

## Habitat

### Distribution:

A fairly common species that can be found at elevations from 5,000 to 10,000 feet. Normally occurs at higher elevations than Nebraska sedge. Often occurs with blue-joint reedgrass and beaked sedge.

### Community:

Pond and stream edges, marshes, and wet meadows. Grows on a range of moist soils from loams to silt. Will grow on gravel/sand soils at low elevations.

### Hydrology:

Usually found in areas with water depths of 1 to 3 inches season-long. Will decline in water that is 25 in deep. Needs moisture within 8 in of the soil surface.

## Wildlife Benefits

### Food (seeds, rhizomes):

Waterfowl, upland game birds, and songbirds.

### Food (plants):

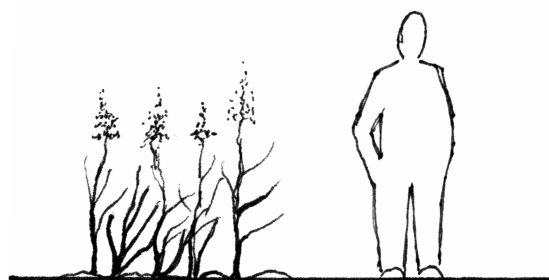
Livestock and other grazers. Fair to good palatability and high production.

### Cover:

Nesting waterfowl and small mammal cover.

## Comments

Moderate to good tolerance for acidic, saline, and alkaline soils. Biomass below ground is 4x the above ground growth. Can withstand fire without much damage because of the high watertable.



# Mannagrass - *Glyceria striata*

## Propagation and Planting

### Fruits:

Achenes are oval, tan to brown and approximately 1/16 inch long. Collect by cutting the seedheads with a clipper. A 1/2 to 3/4 grocery bag of bulk material will yield about 1 to 2 cups of seed.

### Propagation:

Remove periygnia with sandpaper box. Wet prechill seed for 30 days in a mixture of distilled water and sphagnum moss in a cooler (34 to 38° F). Sprinkle seed on top of soil and press in to ensure seed to soil contact. Keep moist during germination. Plants should be ready for outplanting in 2 to 3 months.

### Transplanting:

This species has a slow rate of spread.

### Suggested spacing:

For uniform ground cover

	<u>Plant at:</u>
in 1 yr.	0.5 ft. o.c.
in 2 yrs.	1 ft. o.c.
in 3 yrs.	2 ft. o.c.



female  
spike  
4x



# Baltic Rush - *Juncus balticus*

## Characteristics

### Habit:

A medium-sized perennial, 18 to 30 inches in height. Rhizomatous, usually occurring in large, dense monotypic stands.

### Stems:

Dark green, round and either straight or wiry.

### Leaves:

Short, linear basal sheaths, very insignificant.

### Panicle:

Loose to compact, sessile lateral panicles. Seeds held in a capsule. Flowering period: May to September.

## Habitat

### Distribution:

A very common species that can be found at elevations from 3,000 to 10,000 feet throughout the US.

### Community:

Pond and stream edges, marshes, wet meadows, wet depressions, and springs. Grows on a range of moist soils from sand to silt, uncommon on very coarse substrates.

### Hydrology:

Generally found in areas with season-long saturated soils. Will tolerate wide variety of flooding or drought conditions. Can survive water tables 3 m or more below the surface.

## Wildlife Benefits

### Food (seeds, rhizomes):

Waterfowl, upland game birds, small mammals, and songbirds.

### Food (plants):

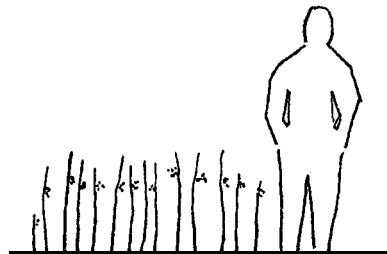
Waterfowl, big game and other grazers (early spring). Palatability declines over the season.

### Cover:

Waterfowl, songbirds, and small mammal cover.

## Comments

Good tolerance for alkaline and acidic soils. Excellent soil stabilizer with deep roots. Can be used around water troughs and ponds to decrease effects of trampling. Native Americans use it for mats and weaving baskets.





## Baltic Rush - *Juncus balticus*

### Propagation and Planting

#### Fruits:

Seeds range in color from gray to reddish or brown. Very, very small seeds. Collect by cutting the seedheads with a clipper. Care must be taken since the seeds are so small; many may be lost in the folds of paper bags.

#### Propagation:

Wet prechilling is not necessary for this species. Soak seeds in water for 3-5 days before seeding. Sprinkle seeds on top of soil and press in to ensure seed to soil contact. Keep moist during germination. Plants should be ready for outplanting in 2 to 3 months.

#### Transplanting:

This species has a rapid rate of spread.

#### Suggested spacing:

For uniform ground cover

Plant at:

in 1 yr.

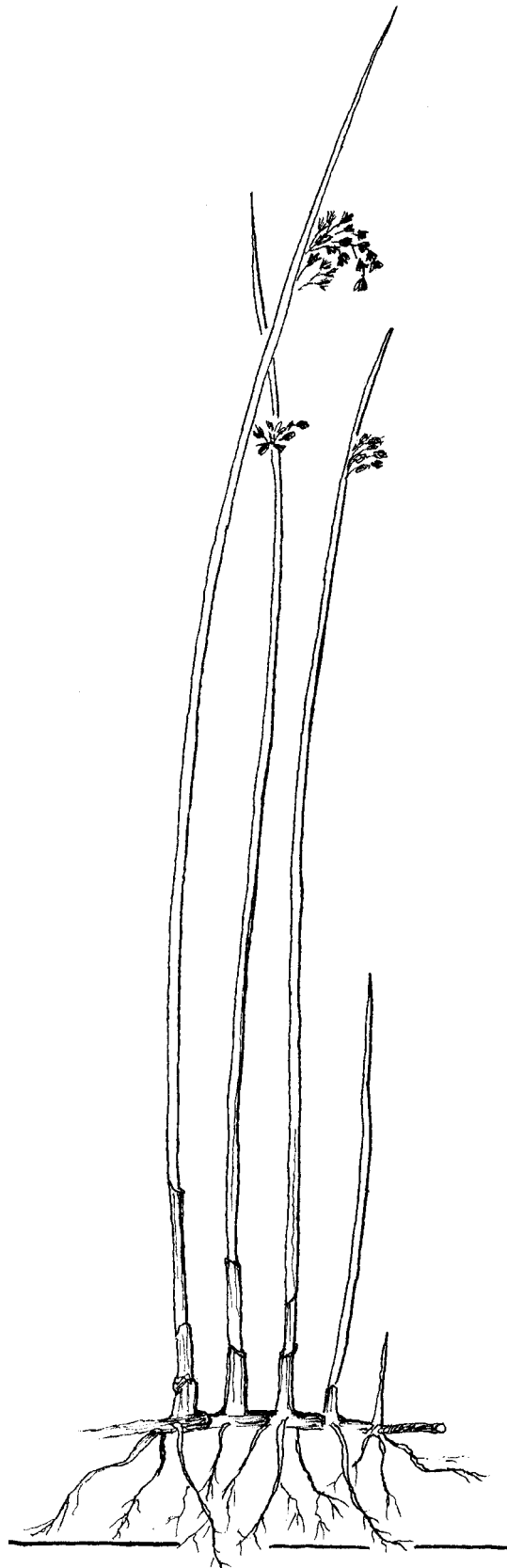
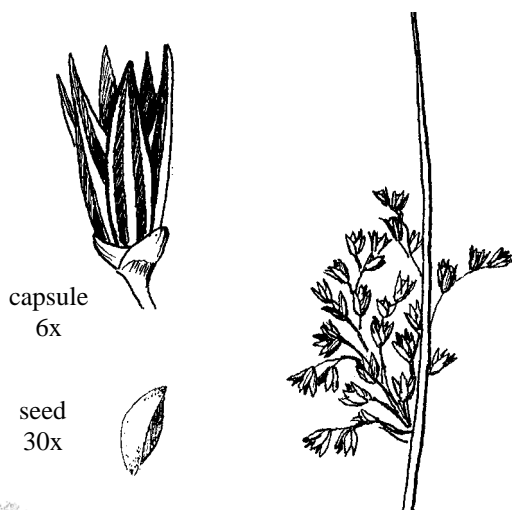
0.5 ft. o.c.

in 2 yrs.

1 ft. o.c.

in 3 yrs.

2 ft. o.c.



# Hardstem Bulrush - *Scirpus acutus*

**Synonym:** *Schoenoplectus acutus* var. *acutus*

## Characteristics

### Habit:

A tall, stout perennial, up to 9 feet in height. Rhizomatous, usually occurring in large, monotypic stands.

### Stems:

Round and pithy, up to 2 inches in diameter at the base.

### Leaves:

Short, linear basal sheaths, very insignificant.

### Spike:

Terminal spike with up to 50 or more spikelets on a short pedicel.  
Flowering period: June to mid-August.

## Habitat

### Distribution:

Very common species that can be found at elevations from 3,000 to 9,000 feet. Widespread in the US, most common in the western US.

### Community:

pond and stream edges, marshes, and lake margins. Often occurs with cattails. Grows on moist silty soils. Usually not found on gravel/sand.

### Hydrology:

Generally found in areas of standing water. Can tolerate water up to 5 feet deep. Requires standing or slow moving water.

## Wildlife Benefits

### Food (seeds, rhizomes):

Waterfowl, upland game birds, songbirds, beaver, and muskrats. It is a very important plant for Western Grebes.

### Food (plants):

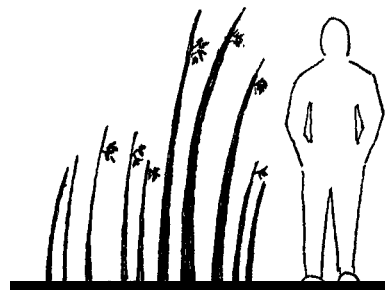
Muskrats.

### Cover:

Nesting waterfowl, fish, and small mammal cover.

## Comments

Excellent tolerance for alkaline, brackish, and saline soils. A very important wildlife species. Will recover readily after fire. Excellent protection from wave action.



# Hardstem Bulrush - *Scirpus acutus*

## Propagation and Planting

### Fruits:

Achenes are lenticular, light green to dark brown and approximately 1/8 inch long. Collect by cutting the seedheads with a clipper. A grocery bag of bulk material will yield about 1 to 2 cups of seed.

### Propagation:

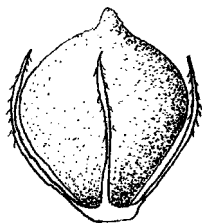
Wet prechill seed for 30 days in a mixture of distilled water and sphagnum moss in a cooler (34 to 38° F). Sprinkle seed on top of soils and press in to ensure seed to soil contact. Keep moist during germination. Plants should be ready for outplanting in 2 months.

### Transplanting:

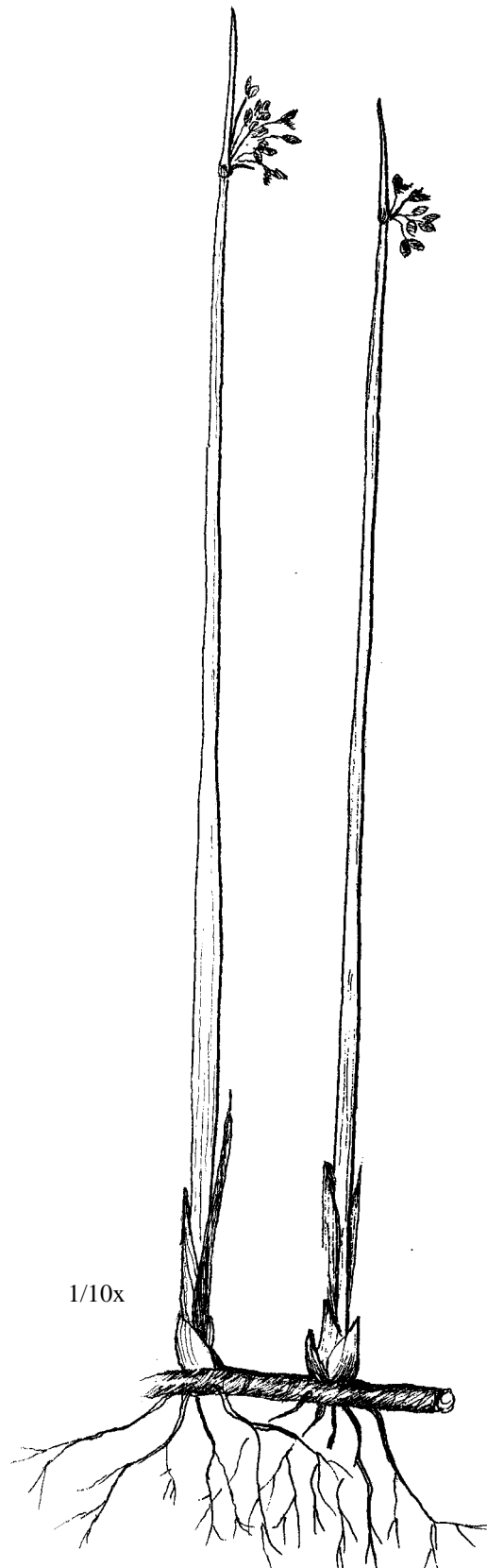
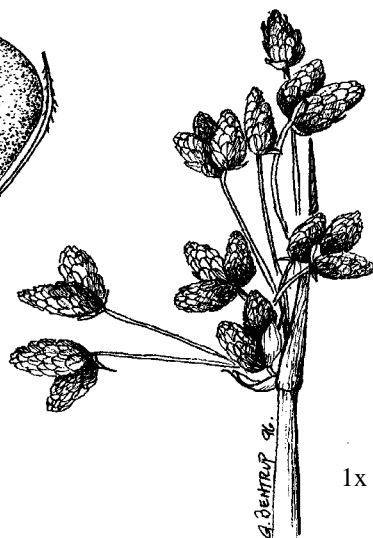
This species has a rapid rate of spread.

Suggested spacing:

<u>For uniform ground cover</u>	<u>Plant at:</u>
in 1 yr.	1 ft. o.c.
in 2 yrs.	2 ft. o.c.
in 3 yrs.	3 ft. o.c.



seed  
12x



# Alkali Bulrush - *Scirpus maritimus*

**Synonym:** *Bolboschoenus maritimus*

## Characteristics

### Habit:

A medium-sized, stout perennial, 8 to 60 inches in height. Rhizomatous, usually occurring in large stands with few other species.

### Stems:

Sharply triangular often with concave sides.

### Leaves:

Usually several well developed leaves that are borne below the midpoint of the stem.

### Spikelets:

Terminal spikelets that are quite compact with 1-3 involucre bracts. Flowering period: July to September.

## Habitat

### Distribution:

A common species that can be found at elevations from 3,000 to 8,000 feet. Widespread in the Northern Hemisphere.

### Community:

Marshes, wet meadows, and pond edges. Often occurs with inland saltgrass. Grows on moist soils from fine clays to silty loams to sands.

### Hydrology:

Generally found in areas with season-long saturated soils or standing water up to 3 ft deep. Can survive where the water table drops to 3 ft below the surface.

## Wildlife Benefits

### Food (seeds, rhizomes):

Waterfowl, upland game birds, and songbirds.

### Food (plants):

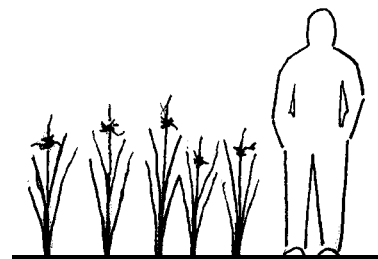
Musk rats and beaver. Grazers rarely use this species.

### Cover:

Waterfowl, deer, and small mammal cover. Can provide fish spawning and rearing areas.

## Comments

High tolerance for alkaline and saline soils. Small bracts in the seedheads will cause severe irritation to hands and eyes when handling. A pioneering species that will be replaced by other species under good soil and water conditions.



## Alkali Bulrush - *Scirpus maritimus*

### Propagation and Planting

#### Fruits:

Achenes are tan to greenish brown and approximately 1/8 inch long. Collect by cutting the seedheads with a clipper, although care should be taken because of the sharp edges on the leaves and stems. A grocery bag of bulk material will yield about 2 cups of seed.

#### Propagation:

Wet prechill seed for 30 days in a mixture of distilled water and sphagnum moss in a cooler (34 to 38° F). Sprinkle seed on top of soils and press in to ensure seed to soil contact. Keep moist during germination. Plants should be ready for outplanting in 2 months.

#### Transplanting:

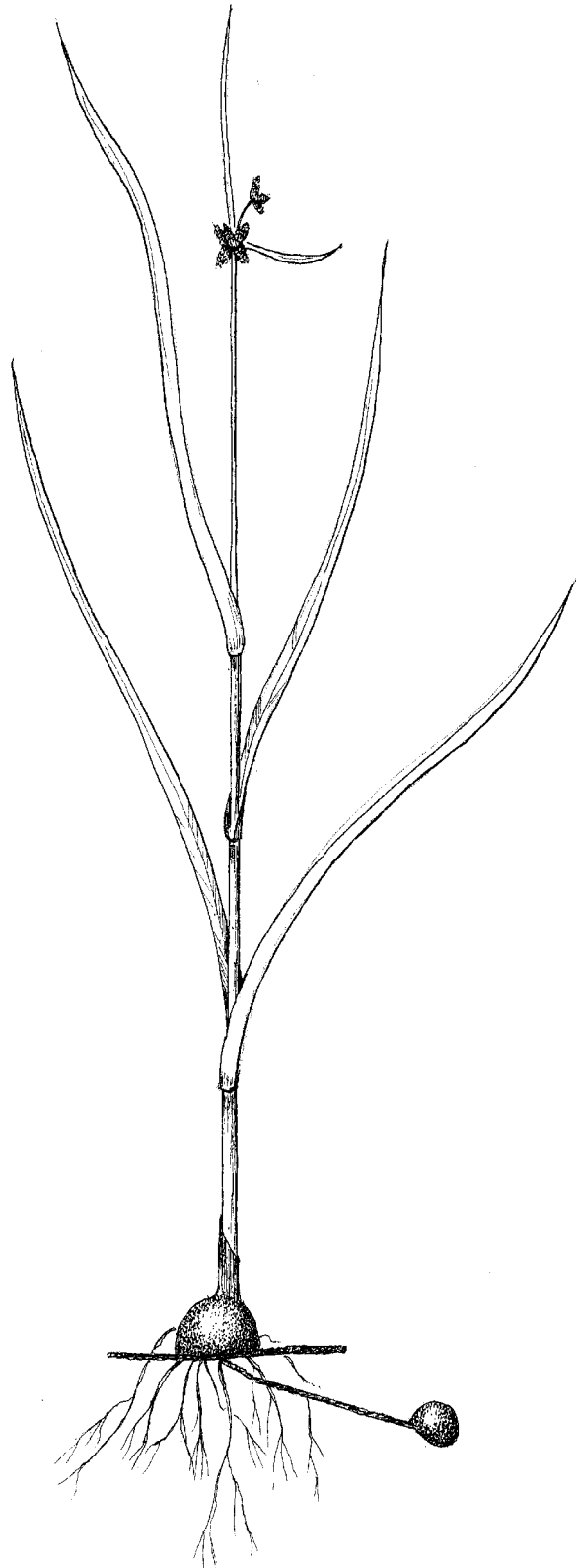
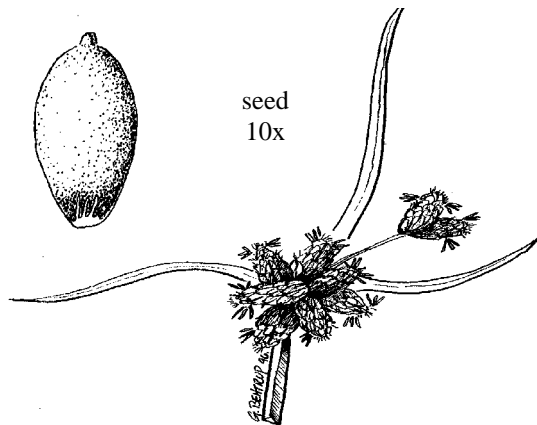
This species has a medium rate of spread.

#### Suggested spacing:

For uniform ground cover

Plant at:

in 1 yr.	0.5 ft. o.c.
in 2 yrs.	1 ft. o.c.
in 3 yrs.	2 ft. o.c.



# Threesquare Bulrush - *Scirpus pungens*

**Synonym:** *Schoenoplectus pungens*

## Characteristics

### Habit:

A medium-sized, erect perennial, 6 to 40 inches in height. Rhizomatous, usually occurring in large, monotypic stands.

### Stems:

Upright, triangular with flat sides, rarely concave.

### Leaves:

Borne near the base.

### Spikelets:

Lateral cluster of 1-6 sessile spikelets. Subtended by an involucre bract that appears to be a continuation of the stem. Flowering period: June to September.

## Habitat

### Distribution:

Very common species that can be found at elevations from 3,000 to 6,500 feet. Common throughout the US.

### Community:

Pond and stream edges, marshes, and lake fringes. Prefers fine silty clay loams, but grows on sandy-loam, uncommon on gravel/sand.

### Hydrology:

Generally found in areas with season-long saturated soils or standing water up to 6 inches deep. It will tolerate long periods of drought.

## Wildlife Benefits

### Food (seeds, rhizomes):

Muskrats, geese, and other waterfowl.

### Food (plants):

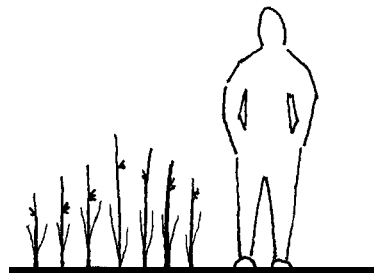
Grazers will use early growth. Palatability and production is low.

### Cover:

Waterfowl, muskrats, and small mammal cover.

## Comments

Excellent tolerance for saline and alkaline soils. Germination is primarily by seed. Will spread readily by rhizomes.



# Threesquare Bulrush - *Scirpus pungens*

## Propagation and Planting

### Fruits:

Achenes are dark green to brown and approximately 1/16-1/8 inch long with slender beaks. Collect by cutting the seedheads with a clipper. A grocery bag of bulk material will yield about 1/2 to 2/3 cup of seed.

### Propagation:

This is a difficult species to propagate from seed, thus transplanting may be the best option.

### Transplanting:

This species has a medium to rapid rate of spread.

### Suggested spacing:

For uniform ground cover

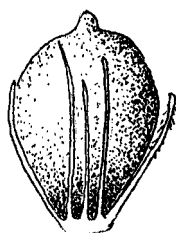
Plant at:

in 1 yr.

1 ft. o.c.

in 2 yrs.

2 ft. o.c.



seed  
10x



2x



1/2x



# Prairie Cordgrass - *Spartina pectinata*

## Characteristics

### Habit:

A short to medium-sized robust perennial, 8 to 40 inches in height. Rhizomatous, usually occurring in dense, multispecies stands.

### Stems:

Stout and triangular.

### Leaves:

Flat, alternate, triangular, and ranging in color from green to blue.

### Spikes:

Borne on spikes, sessile, usually with 1-2 male spikes above the 2-5 female spikes.

Flowering period: May to August.

## Habitat

### Distribution:

A common species that can be found at elevations from 3,500 to 10,000 feet.

### Community:

Pond and stream edges, marshes, wet meadows, seeps, and ditches. Grows on a range of moist, fresh, fine textured soils. Generally does not establish well on gravel or clay soils.

### Hydrology:

Usually found in areas with season-long saturated soils, although tolerant of a range of hydrologic regimes. It can tolerate total inundation for up to 3 months.

## Wildlife Benefits

### Food (seeds, rhizomes):

Waterfowl, upland game birds, small mammals and songbirds.

### Food (plants):

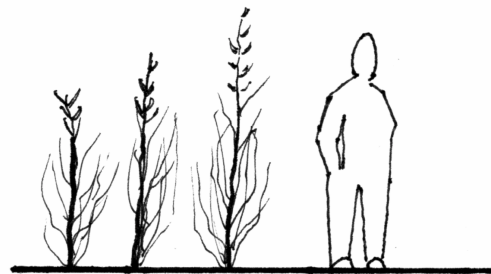
Muskrats, geese, livestock and other grazers. Palatability and production are high.

### Cover:

Nesting waterfowl and small mammal cover.

## Comments

Tolerates alkaline soils. Excellent soil stabilizer. Forms dense deep root system with root biomasses up to 3000 g/m<sup>2</sup> in top 20 cm of soil. Used by Native Americans for mats, bedding, and food.





# Prairie Cordgrass - *Spartina pectinata*

## Propagation and Planting

### Fruits:

Achenes are lenticular, tan to brown and approximately 1/16 of an inch long. Collect by cutting the seedheads with a clipper. A 1/2 to 3/4 grocery bag of bulk material will yield about 1 to 2 cups of seed.

### Propagation:

Remove perigynia with sandpaper box. Wet prechill seeds for 30 days in a mixture of distilled water and sphagnum moss in a cooler (34 to 38° F). Sprinkle seeds on top of soils and press in to ensure seed to soil contact. Keep moist during germination. Plants should be ready for outplanting in 2 to 3 months.

### Transplanting:

This species has a rapid rate of spread.

Suggested spacing:

For uniform ground cover

	<u>Plant at:</u>
in 1 yr.	0.5 ft. o.c.
in 2 yrs.	1 ft. o.c.
in 3 yrs.	2 ft. o.c.



# Common Cattail - *Typha latifolia*

## Characteristics

### Habit:

A tall, stout perennial, up to 6 feet in height. Rhizomatous, usually occurring in large, monotypic stands.

### Stems:

Round and pithy, covered for much of the length by overlapping leaf sheaths.

### Leaves:

Flat, ascending, and alternate.

### Flowers:

Small on large, dense, brown terminal spikelets, male spike above and separate from the female spike.

Flowering period: June to August.

## Habitat

### Distribution:

Very common species that can be found at elevations from 3,000 to 7,000 feet.

### Community:

Marshes and pond edges. Often found with hardstem bulrush. Grows on a range of moist soils from gravel to clay, uncommon on heavy clay soils.

### Hydrology:

Generally found in areas with season-long saturated soils or in standing or slow moving water up to 12 inches deep. It will tolerate long periods of flooding or drought.

## Wildlife Benefits

### Food (seeds, rhizomes):

Waterfowl and muskrats.

### Food (plants):

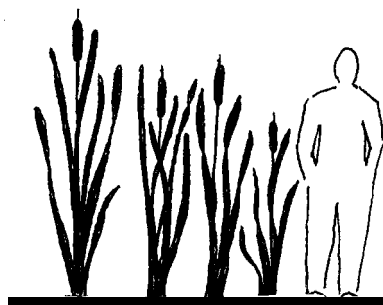
Muskrats

### Cover:

Waterfowl and small mammal cover.

## Comments

High tolerance for saline soils. Excellent uptake capabilities of nutrients and heavy metals. Can be very invasive.



# Common Cattail - *Typha latifolia*

## Propagation and Planting

### Seeds:

Nutlets are approximately 1/32-1/16 inch long with many long slender hairs that arise from the base. Collect by cutting the spikes with a clipper.

### Propagation:

Wet prechill seed for 30 days in a mixture of distilled water and sphagnum moss in a cooler (34 to 38° F). Sprinkle seed on top of soil and press in to ensure seed to soil contact. Keep moist during germination. Plants should be ready for outplanting in 2 months.

### Transplanting:

This is a good species for transplanting methods due to its dense rhizomes and high growth rate.

### Suggested spacing:

For uniform ground cover

	<u>Plant at:</u>
in 1 yr.	1 ft. o.c.
in 2 yrs.	2 ft. o.c.
in 3 yrs.	3 ft. o.c.



seed

